

Work Order ID 81098

March-08-12 8:47:09 AM

81098

Page 1

Item ID: D3391-021

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Tube Assembly

Start Date: 08/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJDate: 12/03/09

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D3391

I

100

0.00

100

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

Cut extrusion to 46.52 +0.010 -0.020

① SAG 12-03-19

110

0.00

110

BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Bend as per Dwg D3391 Using Bend Prog 3391021

① SAG 12-03-19

120

QC5- Inspect part completeness to step on W/O

0.00

120

QC

Memo

0.00

Quality Control

6.625

DP 12-3-19

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

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 Start Date: 08/03/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 22/03/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|--------------------|
| 130 *130* HAAS 1 HAAS CNC vertical machine #1 | HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA590 Rev. <u>AA</u> & Dwg D3391 Rev. <u>1</u> Identify as D3391-1 2-Deburr | 0.00 0.00 | | | | | | | <u>SL 12-03-22</u> |
| 140 *140* QC Quality Control | QC2- Inspect parts off machine FAI/FAIB Memo | 0.00 0.00 | | | | | | | <u>SL 12-03-22</u> |
| 150 *150* Mill Conv Conventional Milling Machine | CONVENTIONAL MILLING MACHINE Memo Drill X1 Aft cap as per Dwg D3391 .1875" dia | 0.00 0.00 | | | | <u>1</u> | <u>0</u> | | <u>SL 12/03/27</u> |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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N900040100Setup Start ***NS1***

Revision ID:

Item Name: Fwd Tube Assembly

Stop ***NS2***

Start Date: 08/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC2- Inspect parts off machine FAI/FAIB

0.00

160

QC

Memo

0.00

Quality Control

1 12/03/27

170

QC8- Inspect parts - second check

0.00

170

QC

Memo

0.00

Quality Control

OK 12/03/28

1 /

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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 Item Name: Fwd Tube Assembly
 Start Date: 08/03/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 22/03/2012 Req'd Qty: 1.00 ***1*** Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

180

180

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

2-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

NO WEARPLATE HOLES ARE TRANSFER DRILLED

De 12/04/04

De 12/04/13

- De 12/04/24

190

190

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Scdalyz

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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 Required Date: 22/03/2012 Req'd Qty: 1.00 ***1*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 200 | Chemical Conversion Coat per QSI005 4.1 | 0.00 | | | | | | | |
| *200* | | | | | | | | | |
| HandFinish | Memo | 0.00 | | | | | | | |
| Hand Finishing | | | | | | | | | |
| 210 | QC7-Inspect Chemical Conversion Coat | 0.00 | | | | | | | |
| *210* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |
| 220 | Skidtubes | 0.00 | | | | | | | |
| *220* | | | | | | | | | |
| Skidtubes | Memo | 0.00 | | | | | | | |
| Skidtubes | 1-instal spacers as per dwg D3391 A/R Magnabond 6398 batch: <u>121221</u> exp. date: <u>13/01/04</u> cure time 12hrs. as per QSI015 2- grind crossbolt flush 3-back drill crossbolt if necessary | | | | | | | | |

pc 12/04/26

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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 Revision ID: Stop ***NS2***
 Item Name: Fwd Tube Assembly
 Start Date: 08/03/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 22/03/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

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|-----------------|---|------|--|--|--|--|--|--|--|
| 230 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| *230* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

| | | | | | | | | | |
|----------------|--------------------------------|------|--|--|--|--|--|--|--|
| 235 | Pressure Wash per QSI005 4.3 | 0.00 | | | | | | | |
| *235* | | | | | | | | | |
| HandFinish | Memo | 0.00 | | | | | | | |
| Hand Finishing | AND REALODINE AS PER PAR09-043 | | | | | | | | |

| | | | | | | | | | |
|----------------|---|------|--|--|--|--|--|--|--|
| 240 | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum | 0.00 | | | | | | | |
| *240* | | | | | | | | | |
| Powdercoat | Memo | 0.00 | | | | | | | |
| Powder Coating | START TIME: 10:15 OVEN TEMPERATURE: 320 OF FINISH TIME: 10:45 | | | | | | | | |

W121134

1258

1X

MA

12/05/08

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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```
Setup  Start  *NS1*
      Stop   *NS2*
```

Cust Item ID:
Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

| | | |
|-----|-------|-------|
| Run | Start | *NR1* |
| | Stop | *NR2* |

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

250 QC3- Inspect Part Finish

0.00

250

QC

Memo

0.00

Quality Control

255

0.00

255

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

**** install D3591-1 spacer as per DSI9364 and wearplate as per DWG ****

257

QC5- Inspect part completeness to step on W/O

0.00

257

QC

Memo

0.00

Quality Control

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Work Order ID 81098

March-08-12 8:47:09 AM

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Item ID: D3391-021 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Tube Assembly
 Start Date: 08/03/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 22/03/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|--------------|---------|--------------|---------------|---------------|------------------|----------------|
| 260 | Identify as per dwg & Stock Location: <u>wld</u> | 0.00 | D412-742-043 | 1383157 | | 1x | 0 | 1105/09 | |
| *260* | | | | | | | | | |
| Packaging | Memo | 0.00 | | | | | | | |
| Packaging | | | | | | | | | |
| 280 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *280* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

12/5/10 *[Signature]*

MF
12-05-10

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Picklist Print

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Work Order ID: 81098

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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 08/03/2012

Required Date: 22/03/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A05.09.13New issue KJ/JLM
 IPP B06.02.10Dwg rev.D ecn 773 EC
 IPP C06.05.02Added inspections EC
 IPP D 07.03.13 rev F dwg EC
 IPP E 07.11.07 revG dwg ecn1053P EC verified by: DD
 IPP Rev:f ECN 1056 07-11-12 DD verified by: EC
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC
 IPP Rev I 09.02.02 added hardware EC verified by: DD IPP Rev:J
 11.11.14 AS PER REV.I DD verified by:JLM

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D4095-051 | | Manufactured | No | | | 255 | Each | 21.0000 | 1 | 1 | | | |

D4095-051

Wearpad Assembly

**

Y1 12/05/09

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| FP001 | 11 | |
| 78821 | 11 | |
| FP002 | 10 | |
| 78914 | 10 | |

D6013-047

Manufactured No

100

Each

110.0000

1

1

D6013-047

Skidtube Material

**

SAD 12-03-19

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG | 110 | |
| 72505 | 110 | |

①

| W/O: | | WORK ORDER CHANGES | | | | | |
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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 08/03/2012

Required Date: 22/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3670-4-200

Manufactured No

220

Each

63.0000

4

4

D3670-4-200

SPACER

**

OK 12/04/26

Location

Loc Qty

Loc Code

LG001

63

72851

3

77500

4

78606

56

(4)

D3401-041

Manufactured No

255

Each

14.0000

1

1

D3401-041

Tow Cap Assembly

**

SL 12/05/09

Location

Loc Qty

Loc Code

FP002

14

78990

11

80611

3

B82302

X1

AN960C10L

NAS1149C0332

Purchased

No

255

Each

0.0000

10

10

***AN960C10I ***

washer

M121509

**

(X10) SL 12/05/09

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 08/03/2012

Required Date: 22/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

255

Each

3,729.000

10

10

AN3C4A

BOLT

**

Yl 12/05/09

Location

Loc Qty

Loc Code

ST350

3729

117688

5

118112

16

119749

10

120187

2000

120423

10

120521

510

120769

515

120799

163

120930

500

X10

D3672-1

Manufactured

No

255

Each

1,294.000

4

4

D3672-1

Phenolic Washer

**

Yl 12/05/09

Location

Loc Qty

Loc Code

FP001

242

66821

242

ST060

1052

72229

52

76277

500

80369

500

X-1

AELS-1032-225

Purchased

No

255

Each

0.0000

10

10

AFI S-1032-225 X AHS4-1032-225 / M121269

INSERT

**

Yl 12/05/09

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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NOTE: Date & initial all entries

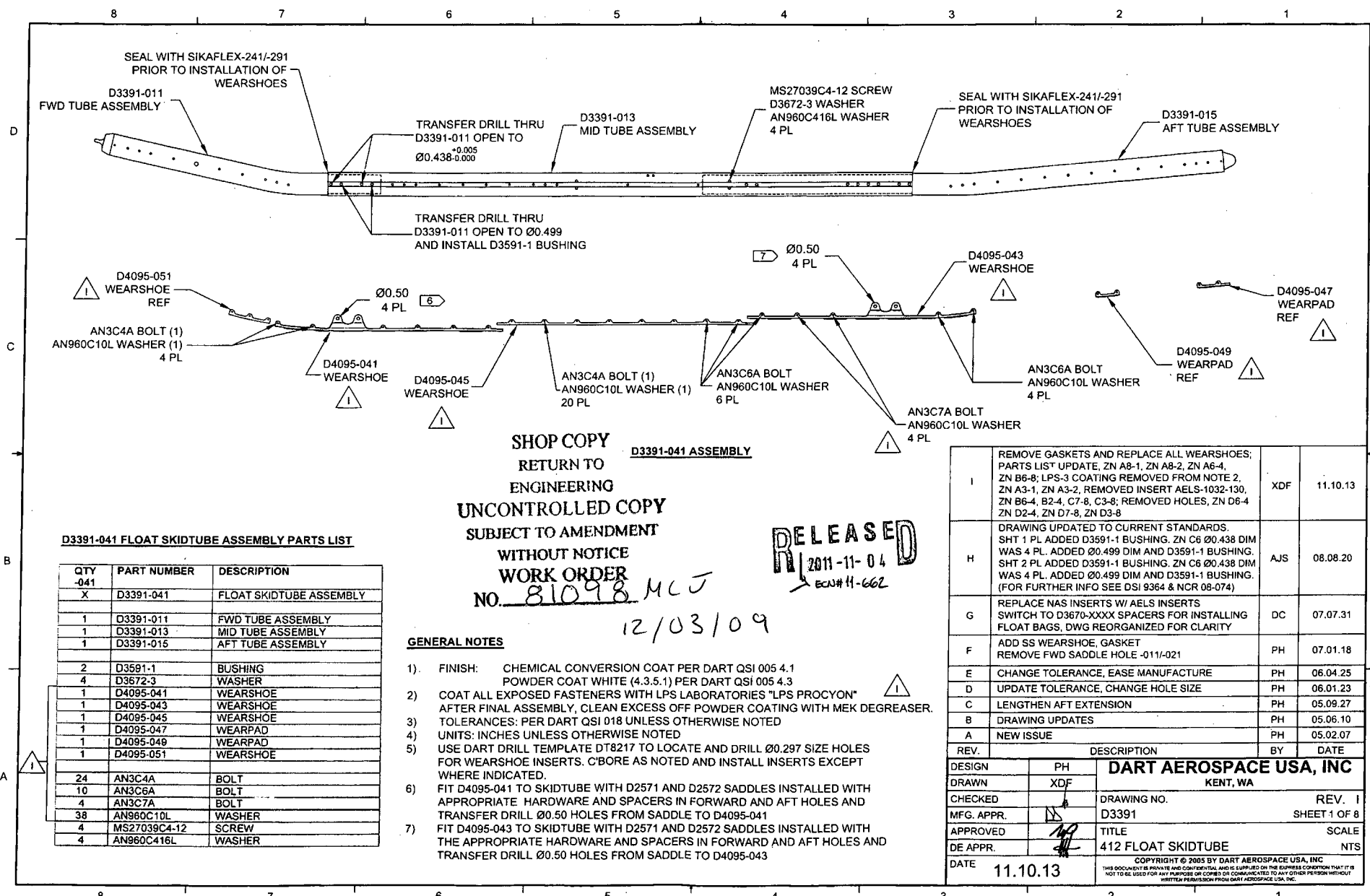
| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries



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 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 81098 MCT
 12/03/09

RELEASED
 2011-11-04
 ECN# 11-662

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

| QTY | PART NUMBER | DESCRIPTION |
|------|--------------|-------------------------|
| -041 | | |
| X | D3391-041 | FLOAT SKIDTUBE ASSEMBLY |
| 1 | D3391-011 | FWD TUBE ASSEMBLY |
| 1 | D3391-013 | MID TUBE ASSEMBLY |
| 1 | D3391-015 | AFT TUBE ASSEMBLY |
| 2 | D3591-1 | BUSHING |
| 4 | D3672-3 | WASHER |
| 1 | D4095-041 | WEARSHOE |
| 1 | D4095-043 | WEARSHOE |
| 1 | D4095-045 | WEARSHOE |
| 1 | D4095-047 | WEARPAD |
| 1 | D4095-049 | WEARPAD |
| 1 | D4095-051 | WEARSHOE |
| 24 | AN3C4A | BOLT |
| 10 | AN3C6A | BOLT |
| 4 | AN3C7A | BOLT |
| 38 | AN960C10L | WASHER |
| 4 | MS27039C4-12 | SCREW |
| 4 | AN960C416L | WASHER |

GENERAL NOTES

- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

| | | | |
|------------|---|---|--------------|
| I | REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8 | XDF | 11.10.13 |
| H | DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074) | AJS | 08.08.20 |
| G | REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY | DC | 07.07.31 |
| F | ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021 | PH | 07.01.18 |
| E | CHANGE TOLERANCE, EASE MANUFACTURE | PH | 06.04.25 |
| D | UPDATE TOLERANCE, CHANGE HOLE SIZE | PH | 06.01.23 |
| C | LENGTHEN AFT EXTENSION | PH | 05.09.27 |
| B | DRAWING UPDATES | PH | 05.06.10 |
| A | NEW ISSUE | PH | 05.02.07 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | PH | DART AEROSPACE USA, INC | |
| DRAWN | XDF | KENT, WA | |
| CHECKED | | DRAWING NO. | REV. I |
| MFG. APPR. | | D3391 | SHEET 1 OF 8 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | 412 FLOAT SKIDTUBE | NTS |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
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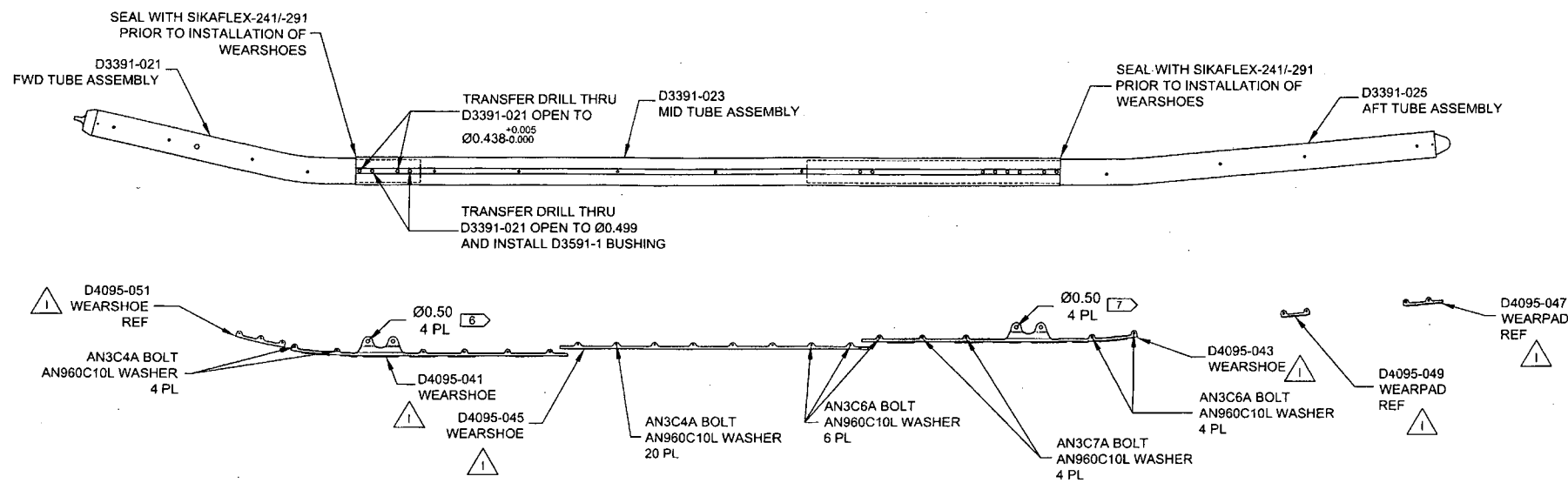
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

81098



D3391-043 ASSEMBLY



D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

| QTY | PART NUMBER | DESCRIPTION |
|-----|-------------|-------------------------|
| X | D3391-043 | FLOAT SKIDTUBE ASSEMBLY |
| 1 | D3391-021 | FWD TUBE ASSEMBLY |
| 1 | D3391-023 | MID TUBE ASSEMBLY |
| 1 | D3391-025 | AFT TUBE ASSEMBLY |
| 2 | D3591-1 | BUSHING |
| 1 | D4095-041 | WEARSHOE |
| 1 | D4095-043 | WEARSHOE |
| 1 | D4095-045 | WEARSHOE |
| 1 | D4095-047 | WEARSHOE |
| 1 | D4095-049 | WEARPAD |
| 1 | D4095-051 | WEARSHOE |
| 24 | AN3C4A | BOLT |
| 10 | AN3C6A | BOLT |
| 4 | AN3C7A | BOLT |
| 38 | AN960C10L | WASHER |

GENERAL NOTES

- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

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2011-11-04

| | | | |
|---|---|---|------------|
| DESIGN | PH | DART AEROSPACE USA, INC | |
| DRAWN | XDF | KENT, WA | |
| CHECKED | | DRAWING NO. | REV. |
| MFG. APPR. |  | D3391 | SHEET 2 OF |
| APPROVED |  | TITLE | SCALE |
| DE APPR. |  | 412 FLOAT SKIDTUBE | NT |
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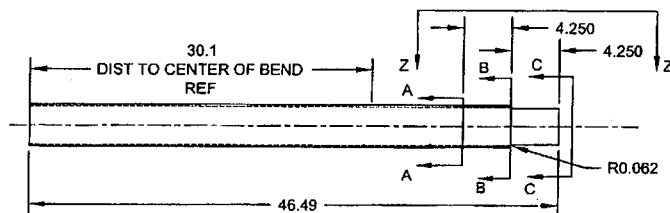
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|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

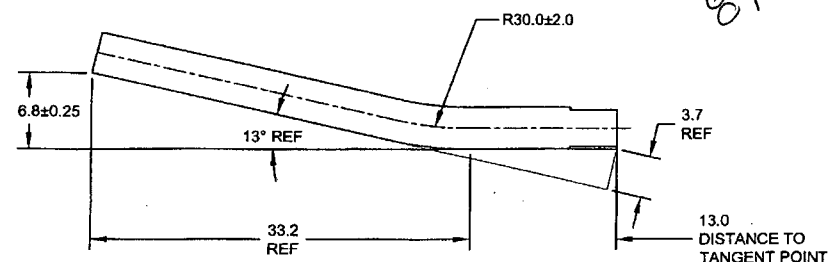
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| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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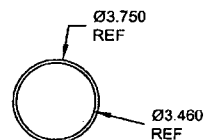
NOTE: Date & initial all entries



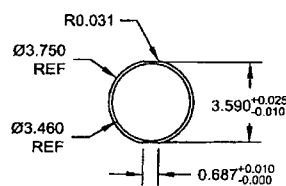
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



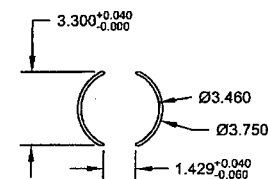
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



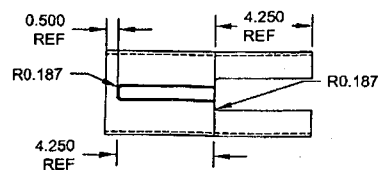
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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2011-11-04

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| DRAWN | XDF | KENT, WA | |
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| MFG. APPR. | | | SHEET 3 OF 8 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | 412 FLOAT SKIDTUBE | NTS |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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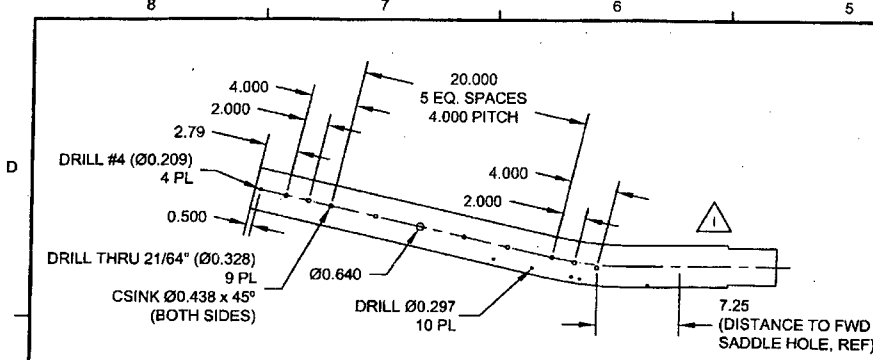
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

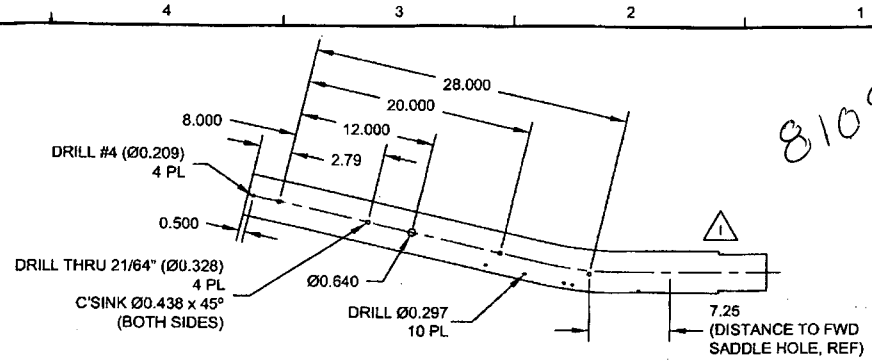
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|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

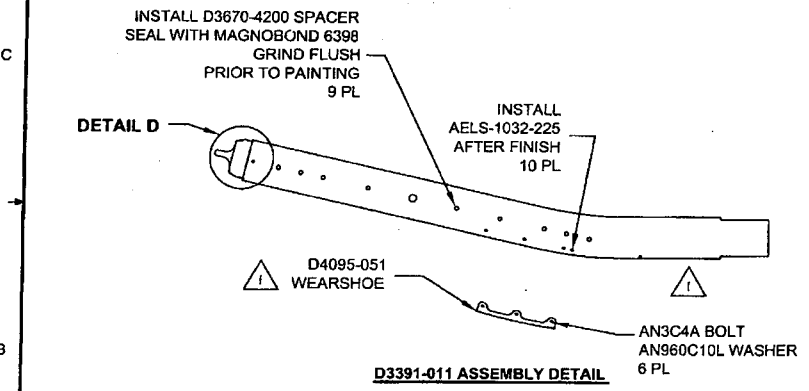
81098



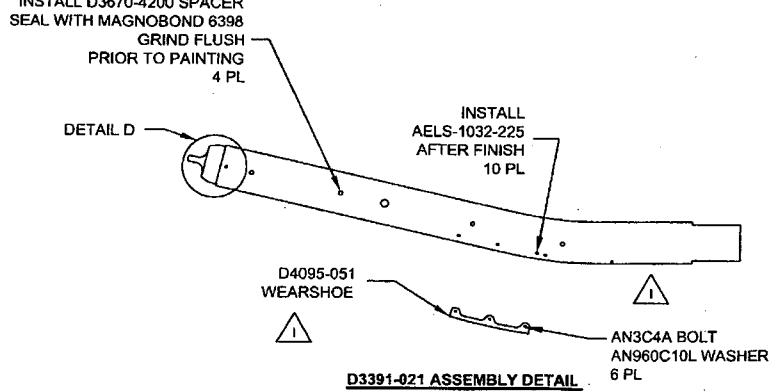
D3391-011 DRILLING DETAIL



D3391-021 DRILLING DETAIL



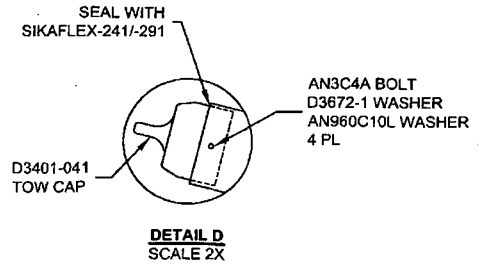
D3391-011 ASSEMBLY DETAIL



D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

| QTY - 011 | QTY - 021 | PART NUMBER | DESCRIPTION |
|-----------|-----------|---------------|-------------------|
| X | X | D3391-011 | FWD TUBE ASSEMBLY |
| | | D3391-021 | FWD TUBE ASSEMBLY |
| 1 | 1 | D3401-041 | TOW CAP |
| 9 | 4 | D3670-4200 | SPACER |
| 4 | 4 | D3672-1 | WASHER |
| 1 | 1 | D4095-051 | WEARSHOE |
| 1 | 1 | D6013-047 | FWD TUBE |
| 10 | 10 | AN3C4A | BOLT |
| 10 | 10 | AN960C10L | WASHER |
| 10 | 10 | AELS-1032-225 | INSERT |



**DETAIL D
SCALE 2X**

RELEASED
2011-11-04

| | | | |
|------------|----------|-----|-------------------------------------|
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| DRAWN | | XDF | |
| CHECKED | | | DRAWING NO. |
| MFG. APPR. | | | D3391 |
| APPROVED | | | TITLE |
| DE APPR. | | | 412 FLOAT SKIDTUBE |
| DATE | 11.10.13 | | SCALE |
| | | | NTS |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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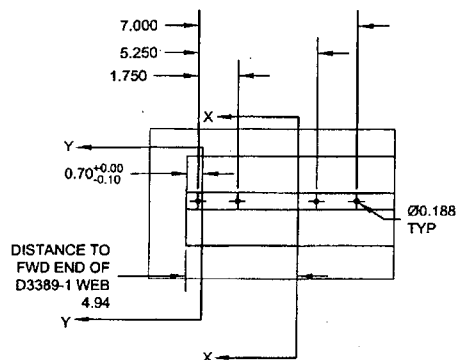
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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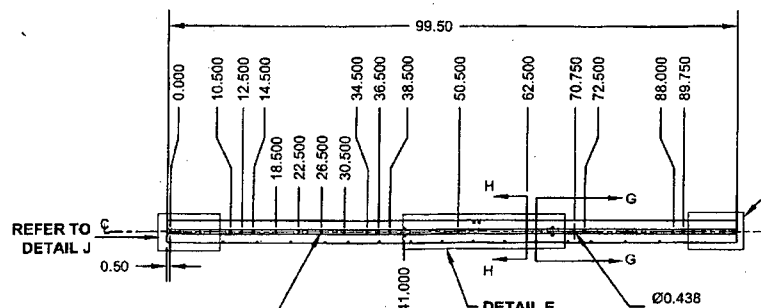
NOTE: Date & initial all entries

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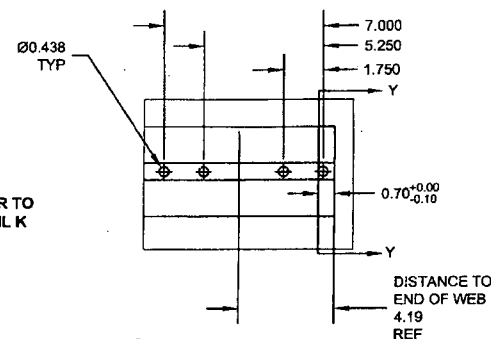
DETAIL J
SCALE 4X

DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



D3391-013 ASSEMBLY DETAIL

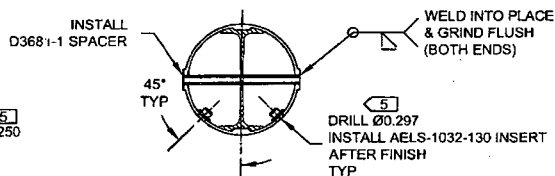
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DETAIL K



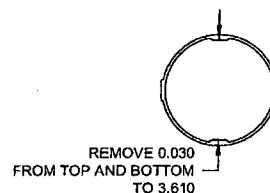
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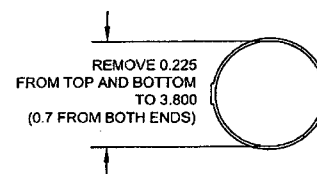
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SCALE 5X



SECTION H-H
SCALE 5X



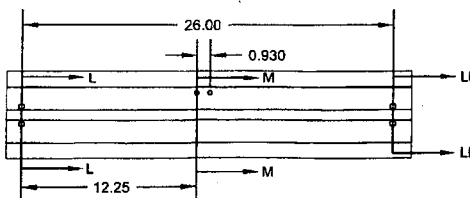
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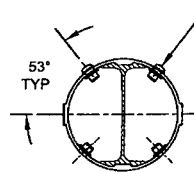
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SCALE 5X

D3391-013 MID TUBE ASSEMBLY PARTS LIST

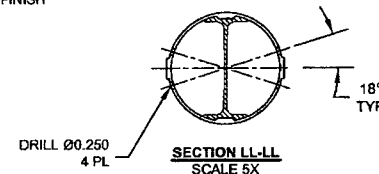
| QTY | PART NUMBER | DESCRIPTION |
|-----|---------------|-------------------|
| X | D3391-013 | MID TUBE ASSEMBLY |
| 1 | D2500-1-100 | EXTRUSION |
| 1 | D3389-1 | WEB |
| 4 | D3672-1 | WASHER |
| 4 | D3672-3 | WASHER |
| 12 | D3681-1 | SPACER |
| 24 | AELS-1032-130 | INSERT |
| 4 | ALS4-428-165 | INSERT |
| 4 | AN960C10L | WASHER |
| 4 | AN960C416L | WASHER |
| 4 | MS27039C1-09 | SCREW |
| 4 | MS27039C4-08 | SCREW |



DETAIL E
SCALE NONE

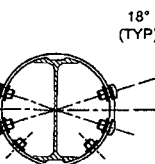


SECTION M-M
SCALE 5X



SECTION LL-LL
SCALE 5X

DRILL Ø0.391
INSTALL ALS4 428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
AN960C416L WASHER
AFTER FINISH
4 PL



SECTION L-L
SCALE 5X

RELEASED
2011-11-04

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART.QSI 004

| | | | |
|------------|----------|--|--------------|
| DESIGN | PH | DART AEROSPACE USA, INC | |
| DRAWN | XDF | KENT, WA | |
| CHECKED | | DRAWING NO. | REV. 1 |
| MFG. APPR. | | D3391 | SHEET 5 OF 8 |
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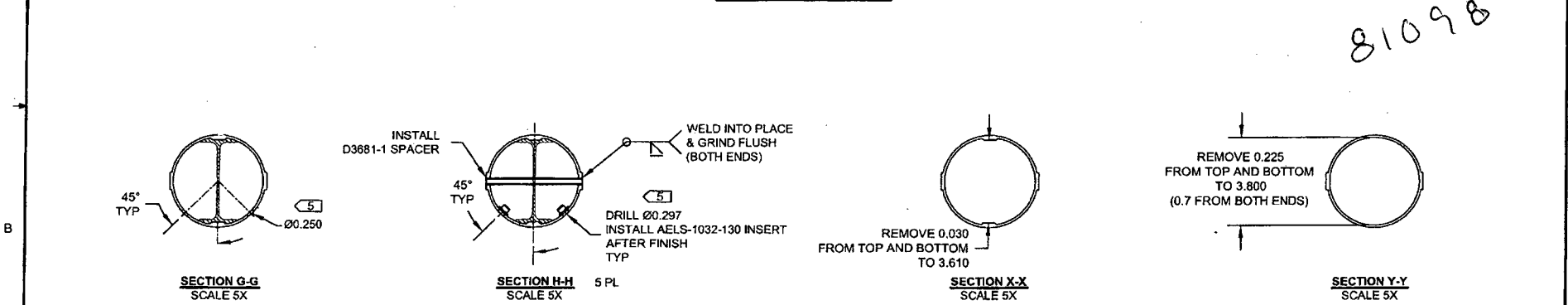
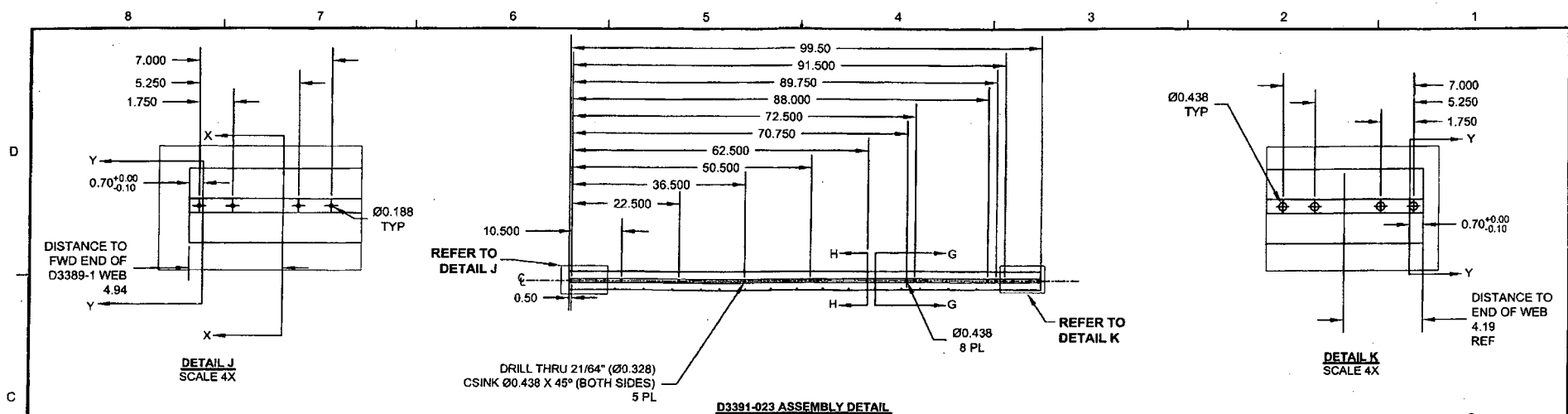
| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries



D3391-023 MID TUBE ASSEMBLY PARTS LIST

| QTY - 023 | PART NUMBER | DESCRIPTION |
|-----------|---------------|-------------------|
| X | D3391-023 | MID TUBE ASSEMBLY |
| 1 | D2500-1-100 | EXTRUSION |
| 1 | D3389-1 | WEB |
| 5 | D3681-1 | SPACER |
| 20 | AELS-1032-130 | INSERT |

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
 - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
 - 3) WELDING: PER DART QSI 004

| | | | |
|------------|----------|--|--------------|
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| DRAWN | XDF | KENT, WA | |
| CHECKED | | DRAWING NO. | REV. 1 |
| MFG. APPR. | | D3391 | SHEET 6 OF 8 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | 412 FLOAT SKIDTUBE | NTS |
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81098

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2011-11-04

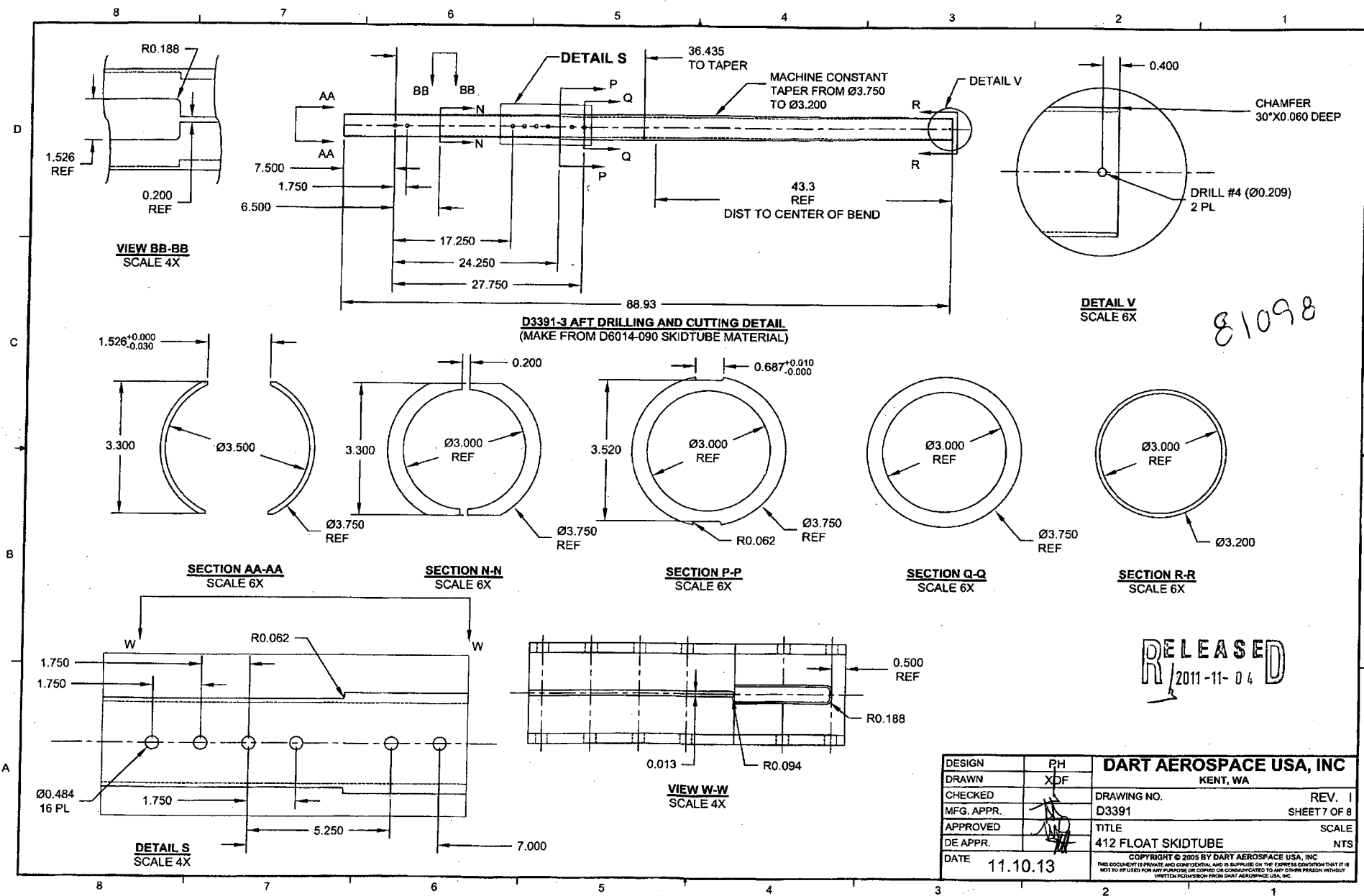
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|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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NOTE: Date & initial all entries



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|------------|----------|--|--------------|
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| CHECKED | | DRAWING NO. | REV. I |
| MFG. APPR. | | D3391 | SHEET 7 OF 8 |
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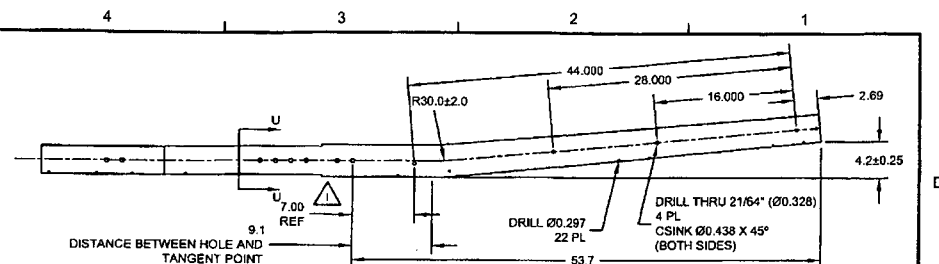
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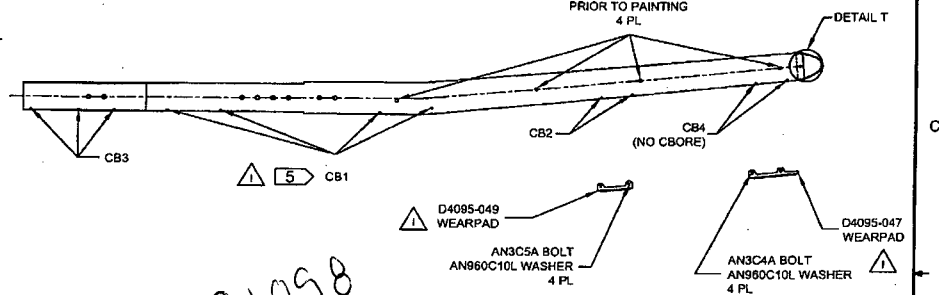
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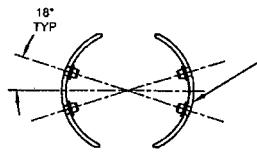
D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL



D3391-025 ASSEMBLY AND CORE DETAIL
(SEE TABLE)

| QTY - 015 | QTY - 025 | PART NUMBER | DESCRIPTION |
|--------------|--------------|---------------|-------------------|
| X | | D3391-015 | AFT TUBE ASSEMBLY |
| | X | D3391-025 | AFT TUBE ASSEMBLY |
| | | | |
| 1 | 1 | D2646 | AFT CAP |
| 14 | 4 | D3670-4200 | SPACER |
| 2 | 2 | D3672-1 | WASHER |
| 1 | 1 | D4095-049 | WEARPAD |
| 1 | 1 | D4095-047 | WEARPAD |
| 1 | 1 | D6014-090 | AFT TUBE |
| | | | |
| 14 | 14 | AELS-1032-130 | INSERT |
| 8 | 8 | AELS-1032-225 | INSERT |
| | | AL34-438-165 | INSERT |
| 8 | 6 | AN3CA4 | BOLT |
| 4 | 4 | AN3CSA | BOLT |
| 10 | 10 | AN660C10L | WASHER |



SECTION CC-CC
SCALE 3X

D2646 AFT CAP

SEAL WITH
SIKAFLEX-241/291

AN3C4A BOLT
D3672-1 WASHER
AN960C10L WASHER
2 PL


SCALE 4X

DETAIL T
SCALE 4X

| HOLES MARKED | QTY D3391-015 | QTY D3391-025 | CBORE | PN |
|-----------------|------------------|------------------|----------------|----------------|
| CB1 | 8 | 8 | Ø0.430 X 0.170 | AELS-1032-225 |
| CB2 | 4 | 4 | Ø0.430 X 0.170 | AELS-1032-130 |
| CB3 | 6 | 6 | Ø0.430 X 0.040 | AELS-1032-130 |
| CB4 | 4 | 4 | NONE | AFI S-1032-130 |

| HOLES MARKED | QTY D3391-015 | QTY D3391-025 | CBORE | PN |
|-----------------|------------------|------------------|----------------|----------------|
| CB1 | 8 | 8 | Ø0.430 X 0.170 | AELS-1032-225 |
| CB2 | 4 | 4 | Ø0.430 X 0.170 | AELS-1032-130 |
| CB3 | 6 | 6 | Ø0.430 X 0.040 | AELS-1032-130 |
| CB4 | 4 | 4 | NONE | AFI S-1032-130 |

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| MFG. APPR. |  | D3391 | SHEET 8 OF 8 |
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NOTE: Date & initial all entries